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EXAMINER	
DEHGHAN, QUEENIE S	

ART UNIT	PAPER NUMBER
1731	

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/771,176	CHENG ET AL.	
	Examiner	Art Unit	
	Queenie Dehghan	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed May 9, 2006 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because EP 0 652 184 is not in English nor is its relevance stated. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3, 21-23, 28-29, 46, and 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (4,840,653) in view of Wang et al. (7,026,362).

4. Regarding claims 1, 46, and 50, Rabinovich discloses a method for manufacturing a halogen-doped glass comprising: providing a gel monolith having a first halogen content (col. 3 lines 10-12); purifying the gel monolith (col. 3 lines 41-47); sintering the gel monolith in an atmosphere comprising a fluorine containing gas (col. 3 lines 10-15, col. 4 lines 29, 36) having a second halogen content that is less than the first halogen content (col. 5 line 3-4). Furthermore, Rabinovich discloses a method for forming a sol-gel monolith by preparing a first substance comprising metal alkoxide (col. 5 lines 33-35), a second substance comprising a catalyst (col. 5 lines 63-65), providing a halogen comprising chemical (col. 3 lines 10-14, 16-18), forming a solution by adding the second substance to the first substance (col. 5 lines 61-62) together with the halogen-comprising chemical (col. 5 lines 26-30), allowing the solution to gel, thereby forming a wet gel monolith (col. 6 lines 9-12), and drying the wet gel monolith (col. 6 lines 12-14). Rabinovich also clearly describes this method in example 5, but does not disclose a cooling step to the mixture. Wang et al. teach cooling a sol gel solution to a mixture temperature approximately equal to or less than –25°C 9col. 8 lines 37-46). It would have been obvious to one of ordinary skill in the art at the time the invention was

made to utilize the cooling step of Wang et al. in the Rabinovich sol-gel process in order to improve upon the time it takes for gelation to occur, as taught by Wang et al.

5. Regarding claim 3, Rabinovich discloses a step where the hydroxyl impurity concentration of the gel monolith is reduced by heating to a first temperature in an atmosphere having a chlorine concentration (col. 5 lines 17-21, 25-26).

6. Regarding claims 21-23 and 51, Rabinovich provides an example where the first halogen is fluorine and the content of the gel monolith comprises approximately 4% fluorine (example 15 and Table II).

7. Regarding claims 28-29, Rabinovich discloses a consolidating step at elevated temperatures (col. 6 lines 18-19), where the fluorine containing gel monolith is exposed to an atmosphere comprising a fluorine containing gas (col. 3 lines 10, 14-15, col. 4 lines 26, 29), such as elemental fluorine and SiF_4 (col. 3 line 16, col. 4 lines 53-59).

8. Claims 4-6 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072) in view of Wang et al. (7,026,362), as applied to claims 1 and 3 above, in view of Kirkbir et al. (5,254,508). Rabinovich discloses a method for making fluorine-doped glass comprising of a step where the hydroxyl impurity concentration of the gel monolith is reduced by heating to a first temperature in an atmosphere having a chlorine concentration (col. 5 lines 17-21, 25-26). However, Rabinovich does not mention a specific temperature for the heating step or a subsequent step of oxygenation. Kirkbir et al. teach a process for manufacturing a gel monolith very similar to Rabinovich in example 1. Kirkbir et al. further teaches a step of chlorination to remove hydroxyl groups at the temperature of 700°C (col. 5 lines 30-31,

42-43) and step of oxygenation to remove the chlorine impurity in an oxygen atmosphere (col. 3 lines 38-40) at a temperature between 700°C and approximately 950°C (col. 5 lines 31-33, 43-44). Furthermore, Kirkbir et al. teach of steps where the first and second elevated temperatures are ramped (Figure 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the chlorination and oxygenation steps of Kirkbir et al. in the process of Rabinovich and Wang et al. for making a fluorine-doped sol-gel monolith in order to ensure proper removal of impurities in the glass.

9. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072) in view of Wang et al. (7,026,362), as applied to claim 1 above, in further view of Wang et al. (5,264,197). Rabinovich discloses a process for manufacturing a fluorine-doped glass comprising of providing a gel monolith, but does not disclose characteristics of the monolith. Wang et al. ('197) teach of a gel monolith made by the sol-gel method (col. 1 lines 25-30) with a pore radius of 10nm (diameter = 20nm) (col. 2 lines 19-20) and pores with an average surface area of 550 m^2/gm (Table 1, example 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ Rabinovich and Wang et al. ('362) method for manufacturing a gel monolith with a pore diameter of 20nm and pore surface area of 550 m^2/gm, as taught by Wang et al. ('197)in order to achieve a crack-free gel monolith.

10. Claims 7-9, 14-16, 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072) and Wang et al. (7,026,362), as applied to claims 3, and 28 above, in view of Kirkbir et al. (5,254,508), as applied to claim 11

above, and in further view of Kyoto et al. (5,364,428). Rabinovich disclose a consolidating step at elevated temperatures (col. 6 lines 18-19), where the fluorine containing gel monolith is exposed to an atmosphere comprising a fluorine containing gas (col. 3 lines 10, 14-15, col. 4 lines 26, 29). However, Rabinovich does not mention the pressure or a concentration of the chlorine containing gas and fluorine-containing gas. Kirkbir et al. teach of an oxygenation step to remove the chlorine impurity in an atmosphere with 100% oxygen (col. 3 lines 38-40), but do not mention the pressure or the oxygen atmosphere. Kyoto et al. teach of a step where porous glass mass (col. 3 lines 62-64) is heated in an atmosphere of inert gas with 10% of chlorine and at a pressure of less than atmospheric pressure (col. 7 lines 6-7). Kyoto et al. also teach of a step where the porous glass mass is introduced to an atmosphere of fluorine-containing gas with a pressure of less than atmospheric (col. 8 lines 57-58) during consolidation. Although not explicitly mentioned, the idea of treating porous glass mass at a pressure lower than atmospheric pressure is well taught by Kyoto et al. (col. 3 lines 14-17) and could be inherently used for Kirkbir et al. oxygen atmosphere. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the chlorine concentration and pressure of less than atmospheric pressure of Kyoto in the oxygenation step of Kirkbir et al. and the chlorine- and fluorine-containing gas treatment steps of Rabinovich in order to ensure proper removal of hydroxyl groups by chlorine and subsequently proper removal chlorine by oxygen, so as to prevent bubble in the halogen doped glass. Furthermore, although Kirkbir et al. did not specifically mention an oxygen concentration of approximately 50%, nor did Kyoto et al.

specifically mention a concentration of 20-50% fluorine, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the proper concentration of each gas in the various purifying and sintering steps of Rabinovich in order to achieve the desired halogen concentration in the final glass product.

11. Claims 24-25, 37- 42, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072) in view of Wang et al. (7,026,362), as applied to claims 1 and 21 above, in further view of Moore et al. (6,492,072). Rabinovich describes method for manufacturing a flourine-doped glass via a sol-gel process, but does not disclose the attributes of the glass. Regarding claims 37-42 and 45, Moore et al. teach of a fluorine-doped glass made from a sol-gel method (col. 5 line 62) with attributes, such as an internal transmission at 157nm of at least approximately 89% (col. 11 lines 45-46) through 6.4mm of glass, an index of refraction difference from undoped silica glass of 0.0053 (table 1), an OH content below 1ppm (col. 3 line 52), and a coefficient of thermal expansion of approximately 0.5 x 10^{-7}/°C (table 1). Regarding claims 24-25, Moore et al. also teach of a glass with a fluorine content of 0.5%wt (col. 5 lines 6-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to obtain the glass attributes of Moore et al. in fluorine-doped glass of Rabinovich and Wang et al. in order to produce a product that has the necessary transmission attributes necessary for operating photo mask blanks at the 157nm wavelength, as taught by Moore et al.

12. Claims 26, 33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072), Wang et al. (7,026,362), and Kyoto et al. (5,364,428), as

applied to claims 1, 28, and 30 above, and in further view of Moore et al. (6,492,072). Rabinovich discloses a method for manufacturing a fluorine dope glass where the second fluorine content is less than the first after consolidation. Kyoto et al. teach of use of fluorine-containing gas that less than atmospheric and has a concentration that is sufficient to prevent the loss of fluorine containing compound (col. 6 lines 24-26), by gradually replacing the chlorine treatment gas with a fluorine treatment gas and further consolidated under the fluorine containing gas (col. 7 lines 14-21). Regarding claim 33, Moore et al. also teach of the use of fluorine-containing gas in the sintering step of a glass perform (col. 7 lines 32-41). Furthermore, Moore et al. mentions the need for fluorine to present in a particular pressure in order to ensure a desired amount of fluorine is incorporated in the glass (col. 7 lines 23-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Moore et al. and Kyoto et al., where glass performs are consolidated in the presence of fluorine-containing gas in Rabinovich and Wang et al. process for making fluorine-doped glass, in order to ensure a proper amount of fluorine is still present in the consolidated glass, so bubble formations are minimized.

13. Regarding claims 26 and 36, Kyoto et al. teach of a consolidation step where the temperature is ramped (col.8 lines 58-59) and Moore et al. teach of a glass with a fluorine content of 0.5%wt (col. 5 lines 6-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the step of ramping the consolidation temperature, as disclosed by Kyoto et al. to achieve a glass with 0.5%wt fluorine, as mentioned by Moore et al., in Rabinovich and Wang et al. method

for making a fluorine-doped glass to ensure enough fluorine was still present so as to minimize bubble formations.

14. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072), Wang et al. (7,026,362), Kyoto et al. (5,364,428), and Moore et al. (6,492,072), as applied to claim 26 above, and in further view of Susa et al. (4,317,668). Rabinovich, Moore et al. and Kyoto et al. teach the use of a fluorine-containing gas in the consolidation of a fluorine-doped glass at a ramped temperature, but do not mention the ramp rate of the temperature. Susa et al. teach of a temperature ramp during consolidation (col.7 lines 4-5) of 50°C/hr (col. 7 lines 10-12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the temperature ramp of Susa et al. in Rabinovich, Wang et al., Moore et al. and Kyoto et al. fluorine environment in order to ensure homogenous pore diameters in the consolidated gel monolith, as taught by Susa et al.

15. Claims 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072) and Wang et al. (7,026,362), as applied to claim 1 above, in view of Uebbing et al. (6,550,277). Rabinovich discloses a method for manufacturing fluorine-doped glass. Uebbing et al. teach of a glass with an inhomogeneity in the refractive index less than 20ppm (approximately 10ppm) (col. 3 lines 10-11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make glass with such a low inhomogeneity, in the refractive index, as taught by Uebbing et al. in Rabinovich and Wang et al. method to avoid absorptions at the wavelength of 157nm, as taught by Uebbing et al.

16. Claims 31, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072) and Wang et al. (7,026,362), in view of Kyoto et al. (5,364,428) as applied to claims 28 and 30, and in further view of Uebbing et al. (6,550,277). Rabinovich disclose a consolidating step at elevated temperatures (col. 6 lines 18-19), where the fluorine containing gel monolith is exposed to an atmosphere comprising a fluorine containing gas (col. 3 lines 10, 14-15, col. 4 lines 26, 29). Kyoto et al. teach of a step where the porous glass mass is introduced to an atmosphere of fluorine-containing gas with a pressure of less than atmospheric (col. 8 lines 57-58). However, neither Rabinovich nor Kyoto et al. mention the concentration of the fluorine-containing gas or an elevated temperature in the range of 950°C and 1100°C. Uebbing et al. teach the use of fluorine containing gas concentration of 10% at an elevated temperature of 1000°C (col. 5 lines 53-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the fluorine containing gas concentration and elevated temperature of Uebbing et al. in the fluorine atmosphere of Kyoto and Rabinovich to ensure enough fluorine was still present in the glass so as to minimize bubble formations.

17. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072) and Wang et al. (7,026,362), as applied to claim 1 above, in view of Schermerhorn et al. (4,789,389) and Aramaki et al. (Pat. Pub.2003/0226996). Rabinovich discloses a method for manufacturing a halogen-doped glass comprising a gel monolith having a halogen content (col. 3 lines 10-12), where the halogen is flourine. Rabinovich does not teach the use of other halogens such as Iodine or Bromine.

Schermerhorn teach of the use of bromine as dopant (col. 18 lines 49-53) in the preparation of a sol gel solution (col. 6 lines 37-38). Aramaki et al. teach doping a semiconductor with Iodine ([0190]) using a production process from a solution, such as sol-gel. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize various dopants, such as the Bromine of Schermerhorn or the Iodine of Aramaki et al. in Rabinovich and Wang et al. method for preparing a gel monolith, in order to achieve the desired properties of the glass, such as electroconductivity.

18. Claims 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072) and Wang et al. (7,026,362), as applied to claim 46 above, and in view of Kyoto et al. (5,364,428) and Moore et al. (6,492,072). Rabinovich discloses a method for manufacturing a halogen-doped glass comprising: providing a gel monolith having a first halogen content (col. 3 lines 10-12); purifying the gel monolith (col. 3 lines 41-47); sintering the gel monolith (col. 3 lines 10-12, col. 4 lines 29, 36) having a second halogen content that is less than the first halogen content (col. 5 line 3-4). Furthermore, Rabinovich discloses a consolidating step at elevated temperatures (col. 6 lines 18-19), where the fluorine containing gel monolith is exposed to an atmosphere comprising a fluorine containing gas (col. 3 lines 10, 14-15, col. 4 lines 26, 29). However, Rabinovich does not disclose a ramping of the temperature. Kyoto et al. teach of consolidation step where the temperature is ramped (col.8 lines 58-59) and Moore et al. teach of a glass with a (preselected value) fluorine content of 0.5%wt (col. 5 lines 6-7). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to utilize the step of ramping the consolidation temperature, as disclosed by Kyoto et al. to achieve a glass with 0.5%wt fluorine, as mentioned by Moore et al., in Rabinovich and Wang et al. method for making a fluorine-doped glass to ensure enough fluorine was still present so as to minimize bubble formations.

19. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072) and Wang et al. (7,026,362), as applied to claim 46 above, in view of Kirkbir et al. (5,254,508). Rabinovich discloses a step where the hydroxyl impurity concentration of the gel monolith is reduced by heating to a first temperature in an atmosphere having a chlorine concentration (col. 5 lines 17-21, 25-26), but does not mention the removal of chlorine impurity. Kirkbir et al. also teach a step of chlorination to remove hydroxyl groups at the temperature of 700°C (col. 5 lines 30-31, 42-43), followed by a step of oxygenation to remove the chlorine impurity in an oxygen atmosphere (col. 3 lines 38-40) at a temperature between 700°C and approximately 950°C (col. 5 lines 31-33, 43-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the chlorination and oxygenation steps of Kirkbir et al. in the Rabinovich and Wang et al. process for making a fluorine-doped sol-gel monolith in order to ensure proper removal of impurities in the glass.

20. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (6,492,072) in view of Wang et al. (7,026,362) and in further view of Kyoto et al. (5,364,428). Rabinovich discloses a method for forming a sol-gel monolith by preparing a first substance comprising metal alkoxide (col. 5 lines 33-35), a second substance comprising a catalyst (col. 5 lines 63-65), providing a fluorine comprising

chemical (col. 3 lines 10-14, 16-18), forming a solution by adding the second substance to the first substance (col. 5 lines 61-62) together with the flourine-comprising chemical (col. 5 lines 26-30), allowing the solution to gel, thereby forming a wet gel monolith (col. 6 lines 9-12),drying the wet gel monolith (col. 6 lines 12-14), and forming a gel monolith having a fluorine content (col. 3 lines 21-35). Rabinovich also clearly describes this method in example 5, but does not disclose a cooling step to the mixture. Wang et al. teach cooling a sol gel solution to a mixture temperature approximately equal to or less than –25°C 9col. 8 lines 37-46). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the cooling step of Wang et al. in the Rabinovich sol-gel process in order to improve upon the time it takes for gelation to occur, as taught by Wang et al. Furthermore, Kyoto et al. teach a method where a porous glass mass made by sol-gel process (col. 3 lines 61-64) is consolidated in an atmosphere of fluorine-containing gas with a partial pressure of 0.05atm (example 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the partial pressure of Kyoto et al. in the consolidation step of Rabinovich in order to remove trapped water from the pores of the monolith and filling it with fluorine containing gas, as taught by Kyoto et al.

Double Patenting

21. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct

from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

22. Claims 1, 21, 46 and 52 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 36 of copending Application No. 10/215,353 in view of Rabinovich (4,840,653) and Kyoto et al. (5,364,428). Claims 1 and 36 in the copending application '353 read on claims 1, 21, 46 and 52 of the instant application, however the gelling, drying and consolidating steps are not disclosed. Rabinovich discloses a method for manufacturing a halogen-doped glass comprising: purifying the gel monolith (col. 3 lines 41-47); sintering the gel monolith in an atmosphere comprising a fluorine containing gas (col. 3 lines 10-15, col. 4 lines 29, 36) having a second halogen content that is less than the first halogen content (col. 5 line 3-4). Furthermore, Rabinovich discloses a method for forming a sol-gel monolith by preparing a first substance comprising metal alkoxide (col. 5 lines 33-35), a second substance comprising a catalyst (col. 5 lines 63-65), providing a halogen comprising chemical (col. 3 lines 10-14, 16-18), forming a solution by adding the second substance to the first substance (col. 5 lines 61-62) together with the halogen-

comprising chemical (col. 5 lines 26-30), allowing the solution to gel, thereby forming a wet gel monolith (col. 6 lines 9-12), and drying the wet gel monolith (col. 6 lines 12-14). Additionally, Kyoto et al. teach a method where a porous glass mass made by sol-gel process (col. 3 lines 61-64) is consolidated in an atmosphere of fluorine-containing gas with a partial pressure of 0.05atm (example 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method steps of Rabinovich and the partial pressure of Kyoto et al. in the consolidation step of Rabinovich in order to complete the sol-gel process of manufacturing a gel monolith with a fluorine concentration. This is a provisional obviousness-type double patenting rejection.

23. Claims 1, 46 and 52 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3, 4, and 21 of U.S. Patent No. 7,026,362 in view of Rabinovich (4,840,653) and Kyoto et al. (5,364,428). Claims 3, 4 and 21 in the patent '362 read on claims 1, 21, 46 and 52 of the instant application, however the drying and consolidating steps are not disclosed as well as a halogen chemical. Rabinovich discloses a method for manufacturing a halogen-doped glass comprising: purifying the gel monolith (col. 3 lines 41-47); sintering the gel monolith in an atmosphere comprising a fluorine containing gas (col. 3 lines 10-15, col. 4 lines 29, 36) having a second halogen content that is less than the first halogen content (col. 5 line 3-4). Furthermore, Rabinovich discloses a method for forming a sol-gel monolith by preparing a first substance comprising metal alkoxide (col. 5 lines 33-35), a second substance comprising a catalyst (col. 5 lines 63-65), providing a halogen comprising

chemical (col. 3 lines 10-14, 16-18), forming a solution by adding the second substance to the first substance (col. 5 lines 61-62) together with the halogen-comprising chemical (col. 5 lines 26-30), allowing the solution to gel, thereby forming a wet gel monolith (col. 6 lines 9-12), and drying the wet gel monolith (col. 6 lines 12-14). Additionally, Kyoto et al. teach a method where a porous glass mass made by sol-gel process (col. 3 lines 61-64) is consolidated in an atmosphere of fluorine-containing gas with a partial pressure of 0.05atm (example 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method steps of Rabinovich and the partial pressure of Kyoto et al. in the consolidation step of Rabinovich in order to complete the sol-gel process of manufacturing a halogen doped glass with a fluorine concentration. This is a provisional obviousness-type double patenting rejection.

Response to Arguments

24. Applicant's arguments with respect to claims 1 and 3-52 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Queenie Dehghan whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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